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قال تعالى:

وَأَنْ هَذَا صِرَاطِي مُسْتَقِيمًا
فَاتَّبِعُوهُ
وَلَا تَتَّبِعُوا السُّبُلَ
فَفَرَّقَ بَيْنَكُمْ عَنْ سَبِيلِ
الْأَنْعَامِ ٥٣

Symptoms and Signs

1. Cough D4T

Ask

Q1: Is it dry or productive? ناشئة ولا يلهم

Dry	Productive
Causes = ① Acid irritation "oesophageal reflux (the commonest), heart burn" (nauseating & at meal time). ② SE of ACEIs e.g capoten ③ Tracheitis (dry and very painful), bronchitis, URTI, LRTI. ④ Postnasal drip (dry & ticky): the 2nd common. (sinusitis)	• Always inspect the sputum حتى لو كانت الصليبة مازودة • What is the color of the sputum? ① Black: smoking (the most common cause of increased sputum production): smoker حاجة متعود عليها ② Yellow/green: infection (bronchitis, pneumonia, bronchiectasis) ③ White/Grey: asthma ④ Pink, frothy: pulmonary oedema ⑤ Bloody: requires investigation (infection, malignancy, T.B, or trauma). ⑥ Clear: often saliva.

Q2: What is the character of the cough?

Asthma:

- Paroxysmal.
- Chronic.
- Worsen after exercise and exposure to allergen.
- Often **nocturnal**.

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- **Laryngitis**: cough with **hoarse voice**.
- **Tracheitis**: dry & very painful & harsh.
- **Pleurisy**: sharp chest pain.
- **Post-nasal drip**: ticky.
- **Recurrent laryngeal nerve palsy**: hollow.

Q3: What is onset & duration of cough? متى بدأ وكم مدة

Acute	Chronic
• URTI (allergic rhinitis, common cold) • Pneumonia • Pulmonary oedema • Acute bacterial sinusitis	= Cough lasting more than 3 weeks think of: • Smoking: particularly in the morning. • Asthma: nocturnal. • T.B • GERD: chronic and dry • Post-nasal drip (due to sinusitis). • Cancer.

Q4: Is there associated pain? ألم مصاحب

- Tracheitis.
- Laryngitis.
- Pleurisy secondary to **lobar pneumonia** or collapse.
- Fracture rib.

Q5: Relation to posture?

- Suppurative lung disease.

N.B: • Cough is usually produced by URTI & smoking
• Cough during & after swallowing liquids suggests disease of the oropharynx: refer to ENT

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Warning symptoms associated with cough that should prompt CXR

1. Haemoptysis
2. Breathlessness
3. Fever
4. Chest pain
5. Weight loss

2. Dyspnea D4R

What is Dyspnea?

It is the sensation that one has to increase effort for respiration إحساس المريض بحاجة إلى زيادة الجهد حتى يتنفس

وصف المريض لها:

1. مش عارف اخذ نفس.
2. حاسس بضيق: وصف الـ asthma.
3. مش عارف اخذ نفس ويقصد أنه عندما يتنفس يشعر بألم فيتوقف عن التنفس

Ask

Q1: Do you feel the need to breathe faster than normal?

من ١ حاسس أنك محتاج تتنفس أسرع من الطبيعي؟

Q2: Do you feel you are unable to breathe deeply?

من ٢ ولا حاسس أنك مش عارف تأخذ نفس عميق؟
علشان تعرف خلية تأخذ نفس عميق وشوف هيجصله إيه

Q3: How quickly did breathlessness occur?

Minutes	PE Pneumothorax Acute LVF Asthmatic attack Inhaled F.B
Hours to days	Pneumonia Asthma Exacerbation of COPD
Weeks to months	Anaemia Pleural effusion Heart failure COPD
Months to years	Pulmonary T.B Pulmonary fibrosis Smoking

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من ٣ إلى أى مدى يمكنك السير قبل أن تضطر إلى التوقف؟
grading of dyspnea = من كم سلة تستطيع صعودها؟
هل يتأثر ضيق النفس بالنشاط؟

- 04. What worsens breathlessness?**
- At rest
 - On exertion

05. Timing?

- Orthopnea "dyspnea on lying down": think of pulmonary oedema, ht dse, chronic lung dse)
 - How many pillows? كم عدد الحداث التي تنام عليها ؟
 - Are you sleeping in chair? هل تنام على كرسي ؟
 - Dyspnea severe on waking in the morning is more typical of COPD and improve after coughing sputum.
- ♀: Platypnea = dyspnea on erect.

Acute dyspnea associated symptoms

Dyspnea + pleuritic chest pain	Dyspnea - chest pain
• Pneumonia • PE • Pneumothorax • Rib fracture	• PE • Pneumothorax • Acute LVF • Shock
Dyspnea + central chest pain	Dyspnea + wheeze & cough
• MI with LVF • Massive PE	• Asthma • COPD

3. Wheezes and stridor - تزيق موسيقية - and stridor

Wheezes	Stridor (emergency)
• High pitched musical sound • Occur in inspiration and expiration but more prominent & louder in expiration • You will find it in: ◦ Asthma ◦ Smoking related disease ◦ Bronchiolitis ◦ Airway obstruction (COPD) ◦ Pulmonary oedema & HF	• Due to upper airway obstruction. • More in inspiration. • More prominent in tracheal auscultation • Causes: ◦ Epiglottitis, croup, inhaled F.B ◦ Rapidly progressive laryngomalacia ◦ Anaphylaxis causing laryngeal oedema

4. Chest pain D&R (See ER chapter for more details)

- Pain from lung dse is usually pleuritic
- Pleuritic pain:
 - Severe, sharp pain at the height of inspiration or on coughing
 - Patient will avoid deep inspiration & complain of breathlessness
- Parenchymal pain: dull and constant

5. The rest of history

Search for:

- Fever: think of infection, T.B (night fever, night sweating, loss of weight, loss of appetite) malignancy
- Wt loss: think of cancer, ch. lung dse, T.B.
- Ankle oedema: think of Ht failure, Cor-pulmonale

Also ask about

- BCG vaccination. (T.B or not?)
- Oral steroids: predispose to T.B.
- ACEIs: dry cough.
- Allergies & asthma.
- Smoking index.
- Previous operation.
- Prolonged bed rest: DVT and PE?

References:

1. OHCM: P.36, 37, 58 - 7th ed.
2. GP: p.176-180.3rd ed.
3. Oxford handbook clinical examination and practical skills, 1st ed.
4. Macleod's clinical examination p 158, 159

1. Upper respiratory tract infection (URTI) D&R

- URTI = common cold "coryza", acute laryngitis, acute laryngotracheobronchitis "croup", acute epiglottitis, acute bronchitis, tracheitis.
- Otitis media, Sinusitis also may be included (as a complication).
- The most common health problem facing GP.
- Ask about:
 - Sore throat (pharyngitis?)
 - Cough (bronchitis?)
 - Otagia (otitis media?)
 - Runny nose (rhinitis?)
 - Blocked nose (sinusitis?)
 - Dizziness?
 - Aches and pains?

- Examine throat, ears, and cervical glands search for other diagnoses:

- | | |
|--|---|
| <ul style="list-style-type: none"> ◦ Pneumonia ◦ Tonsillitis ◦ Asthma ◦ OM ◦ PE | <ul style="list-style-type: none"> ◦ Pharyngitis ◦ COPD ◦ Pneumothorax |
|--|---|

If you found treat or refer

Management:

1. Reassure the patient that the condition is self limiting.
2. Abs are not usually recommended, but if 2ry bacterial infection Give
قرص كل ٨ ساعات لمدة أسبوع R/CURAM 625 1x3
3. Analgesic
م.ص كل ٦ ساعات R/CETAL syrup
قرص كل ٦ ساعات Or R/PANADOL

4. For Cough

- For dry cough give:

R/TUSSILAR syp. Or R/CODAPHEN syp. ملعة ٣ مرات يوميا
Or R/COUGH REST syp. 1x3

- For productive cough give:

R/OPLEX syp. Or R/ULTRASOLV syp. ملعة ٣ مرات يوميا

5. Steam inhalation استنشاق بخار

R/VAPOZOL

ملعة على كوب ماء مغلي واستنشاق لمدة ربع ساعة

R/BRADORAL أقراص استنشاق ٣ مرات يوميا

Or R/STREPSILS 1x3

Examples of URTI

1. Common cold (acute coryza)

- Malaise
- Low grade or no fever
- Sneezing
- Cough
- Sore throat, hoarseness
- Inflamed conjunctiva
- Self limited, lasts for 5-7 days

Treatment

1. Oral or topical decongestant

- R/CONGESTAL or CLARINASE tab or syp. 1x3
نظف كل فتحة ٣ مرات يوميا لمدة ٣ أيام
Or R/OTRIVIN nasal drops or gel
Or both
- Topical decongestants should not be used over 3 days to avoid rebound congestion.

2. Antipyretic

- R/CETAL syp. 1x4 or
- R/BRUFEN syp. 1x3
- Warm saline gargle غرغرة ماء دافئة

3. Advice راحة - شرب ماء كثير

2. Influenza (viral infection)

- Fever
- Malaise
- Myalgia
- Headache
- Clear nasal discharge
- Sore throat
- Dry cough

■ **Treatment:** symptomatic

3. Acute epiglottitis

- Fever, sore throat, rapidly leading to stridor because of swelling of epiglottitis and surrounding structures (usually due to infection with H. influenza)
- **Complications:**
 - Death from asphyxia which precipitated by attempts to examine the throat.
 - So, avoid using tongue depressor or any instrument.

N.B suspect bacterial pharyngitis if you found:

- Abrupt onset of sore throat
- Fever
- Tonsillar or/and palatal petechiae
- Tender cervical lymphadenopathy
- Absence of cough

2. Chronic cough 548

- Cough lasting more than 3 weeks

■ **Think of:**

1. Asthma
2. GERD
3. Chronic bronchitis (productive cough > 3 months & during at least 2 consecutive years)
4. Carcinoma of the bronchus
5. Post-nasal drip due to sinusitis
6. Bronchiectasis
7. T.B

► **Some features make one diagnosis more likely than another**
For example:

- Child with chronic, dry, nocturnal cough → think of **asthma**
- Heavy smoker, 65 yrs. Old with chronic cough & wt loss → think of **bronchial carcinoma**

Examination:

Chest examination is often **normal** in patients with chronic cough.

Management:

• Detection of the cause is **often not possible**

- Give 2 weeks of amoxicillin or penicillin combination (for bronchitis or sinusitis)
R/CURAM 625 tab
- If no response give 2 weeks of PPI e.g. lansoprazole 15mg Od (once daily) → for GERD
R/LANSOPRAZOLE (15 mg)
- If failed give 2 weeks of inhaled beclomethasone 400 micrograms BD (twice daily) → for asthma
R/CLENIL FORTE (Beclomethasone 250 mcg)
- If this fails → refer (for investigations of **carcinoma, bronchiectasis**)

References

1. GP 3rd ed. P.176-180

3. Pneumonia (lower respiratory tract infection) 548

Common causes:

- Strept. pneumoniae (pneumococci), staph aureus, haemophilus influenza
- **Atypical pneumonia:** legionella, pseudomonas, klebsiella

C/P: Ask about:

- Dyspnea, cough, **purulent** sputum.
- Fever (>38), rigors, malaise.
- Haemoptysis, pleuritic chest pain

Signs:

- Tachycardia
- Tachypnea
- Cyanosis
- Bronchial breathing
- Consolidation
- Coarse crepitations

Complications:

- Respiratory failure
- Lung abscess
- Empyema
- Pleural effusion
- Septicemia
- Myocarditis
- Pericarditis
- Brain abscess

Degree of severity by:

CURB 65 score

- Confused
- Urea > 7mmol/L (19.6 mg/dl)
- RR ≥ 30
- Systolic Bp < 90, Diastolic BP < 60 (Hypotension)
- Age ≥ 65 years

Results

- 0 - 1 = home ttt
- 2 = hospital ttt
- ≥ 3 = severe pneumonia → urgent hospital admission

British thoracic society (BTS) guidelines for CAP

MANAGEMENT OF COMMUNITY ACQUIRED PNEUMONIA IN ADULTS

Table 3 Initial empirical treatment regimens for community acquired pneumonia (CAP) in adults

Pneumonia severity based on clinical judgement supported by CURB65 severity score ¹	Treatment site	Preferred treatment	Alternative treatment
Low severity (eg. CURB65 = 0-1 or CRB-65 = 0-1, <5% mortality)	Home	Amoxicillin 500 mg 3x daily ²	Doxycycline 200 mg loading dose then 100 mg daily or clarithromycin 500 mg bid daily
Low severity (eg. CURB65 = 0-1, <5% mortality) but admission indicated for reasons other than pneumonia severity (eg. social reasons/unstable comorbid illness)	Hospital	Amoxicillin 500 mg tid only if oral administration not possible amoxicillin 500 mg tid IV	Doxycycline 200 mg loading dose then 100 mg tid only or clarithromycin 500 mg bid only
Moderate severity (eg. CURB65 = 2, 5% mortality)	Hospital	Amoxicillin 500 mg - 1.5g tid orally plus clarithromycin 500 mg bid only if oral administration not possible amoxicillin 500 mg tid IV or ³ cefuroxime 1.5 g tid IV plus clarithromycin 500 mg bid IV	Doxycycline 200 mg loading dose then 100 mg tid only or levofloxacin 500 mg tid only or moxifloxacin 400 mg bid only ⁴
High severity (eg. CURB65 = 3-5, 15-40% mortality)	Hospital (consider critical care review)	Ambicloxacin given as soon as possible Co-amoxiclav 1.2 g tid IV plus clarithromycin 500 mg tid IV (if rigors/strongly suspected, consider adding levofloxacin 400 mg tid IV)	Benzylpenicillin 1.2 g tid IV plus either levofloxacin 500 mg tid IV or ciprofloxacin 400 mg tid IV OR Cefotaxime 1 g tid IV or ceftriaxone 1 g tid IV or cefepime 2 g tid IV plus clarithromycin 500 mg tid IV (if rigors/strongly suspected, consider adding levofloxacin 400 mg tid IV)

1G: none daily; IV: intravenous; tid: three times daily; qid: four times daily; bid: twice daily

²Following reports of an increased risk of adverse hepatic reactions associated with oral moxifloxacin, in October 2008 the European Medicines Agency (EMA) recommended that moxifloxacin should be used only when it is considered appropriate to use oral beta-lactam agents that are currently recommended for the treatment of the infection.

³Cefazolin - risk of QT prolongation with macrolide-quinolone combination

⁴Amoxicillin is not beneficial in Egypt due to its abuse and rising resistance. Use Co-Amoxiclav instead

In the market:

Co-Amoxclav = R/AUGMENTIN 1.2 G VIAL
Clarithromycin = R/KLACID 500 TAB.
Doxycycline = R/VIBRAMYCIN 100MG TAB.
Levofloxacin = R/TAVANIC 500 TAB. OR VIAL (500MG/100 ML IV)
Moxifloxacin = R/TAVALOX 400MG TAB.
Cefuroxime = R/ZINNAT 1.5G VIAL OR 500MG TAB.
Ceftriaxone = R/ROCEPHIN 1G VIAL

- Treat for 7 days at least
- Consider referral if moderate or severe
- Review with 48 hours: Re-assess clinical state: if deteriorating or not improving consider CXR.
- Refer if atypical or MRSA suspected
- Refer if not responding to treatment.
- Failure of pyrexia to respond within 48 hrs or developing of systemic features → Admit
- Add to antibiotics:
 - Paracetamol 500mg
 - R/PANADOL 2x4 or R/PERFALGAN 500mg ivi as needed
- Other medications that may be needed:
 - Mucolytics as R/ACETYLCHOLINE sachets 1x3 or R/AMBROXOL syp 1x3
 - O₂ (guided by pulse oximeter or ABG)
 - Systemic steroids as R/SOLUCORTEF iv 1x3 if asthma or COPD associated.
- Advice to the patient
 - Do not smoke
 - Rest at home
 - Drink plenty of fluids

Pneumonia =

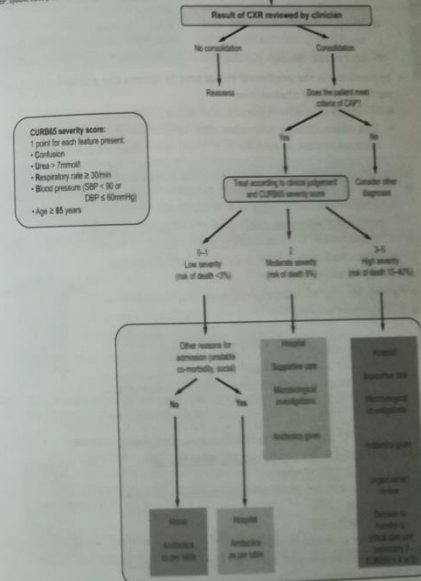
- Antibiotic
- Antipyretic
- ± Mucolytic
- ± Steroids
- ± Oxygen

References

1. General practice - Churchill's pocket textbooks P.180-181.
2. OHCM (Oxford handbook of clinical medicine) P.152-156.
3. Oxford handbook of general practice P.390-391.
4. Practice guidelines for family physicians volume 4: P.40-41

MANAGEMENT OF COMMUNITY ACQUIRED PNEUMONIA IN ADULTS

Hospital management of community acquired pneumonia
COPD is the top 4 CXR chest x ray COPD Asthma blood pressure
SBP systolic blood pressure



4. Bronchial asthma SGR

- Asthma is caused by:
 - Bronchial ms contraction (reversible airway obstruction)
 - Mucosal inflammation and swelling
 - Increased mucus production
- Spirometry is the preferred initial test to assess the presence and severity of airflow obstruction.
 - If FEV1/FVC < 70% = presence of airway obstruction
 - This obstruction is reversible after inhalation of 400 mic. Beclomethasone in case of asthma and is not reversible in case of COPD
- Clinical features that increase the probability of asthma
 - More than one of the following symptoms: wheeze, breathlessness, chest tightness and cough, particularly if:
 - ~ symptoms worse at night and in the early morning
 - ~ symptoms in response to exercise, allergen exposure and cold air
 - ~ symptoms after taking aspirin or beta blockers
 - History of atopic disorder
 - Family history of asthma and/or atopic disorder
 - Widespread wheeze heard on auscultation of the chest
 - Otherwise unexplained low FEV1 or PEF (historical or serial readings)
 - Otherwise unexplained peripheral blood eosinophilia.

Severe attacks:

- Inability to complete sentences
- Pulse > 110
- RR > 25/min.
- Asthma may be associated with acid reflux.

Clinical features that lower the probability of asthma

- Prominent dizziness, light-headedness, peripheral tingling
- Chronic productive cough in the absence of wheeze or breathlessness
- Repeatedly normal physical examination of chest when symptomatic
- Voice disturbance
- Symptoms with colds only
- Significant smoking history (ie > 20 pack-years)
- Cardiac disease
- Normal PEF or spirometry when symptomatic*

* A normal spirometry/spirometry when not symptomatic does not exclude the diagnosis of asthma.
Repeated measurements of lung function are often more informative than a single assessment.

- Ask about:
 - Duration of symptoms & current treatment
 - Present symptoms and their effect on life style (sleep, time off work)
 - Family history
 - Atopy & other atopic diseases (eczema, hay fever, allergy)
 - Active and passive smoking
 - Occupation (exposure to allergens)
 - Drugs (NSAIDs, Aspirin, βBs)
 - Home (Pets? carpets? feather pillows? soft furnishing?)
- Signs
 - Tachypnea
 - Audible wheezes (mainly expiratory)
 - Hyper-inflated chest
- Investigation for demonstration of variability of airway limitation and response to treatment is PEER (peak expiratory flow rate).

Management of chronic asthma:

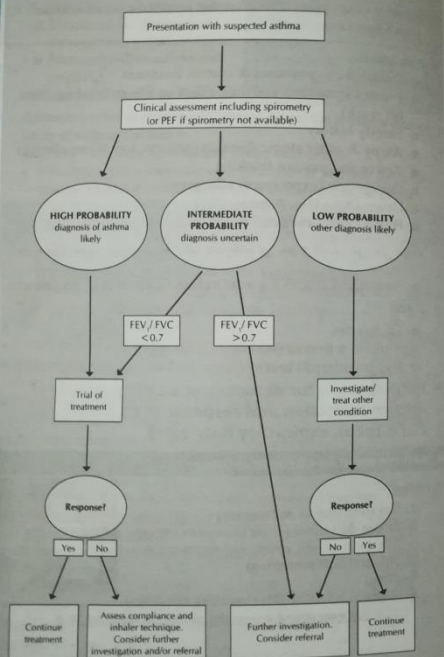
• Avoid

1. Smoking (active and passive)
2. House dust mites (cover mattresses and pillows with plastic covers and decrease carpets and Soft furnishing)
3. Pets
4. Aspirin, NSAIDs, βBs (including eye drops)

Eat everything unless the patient is sensitive to it



Presentation with suspected asthma in adults



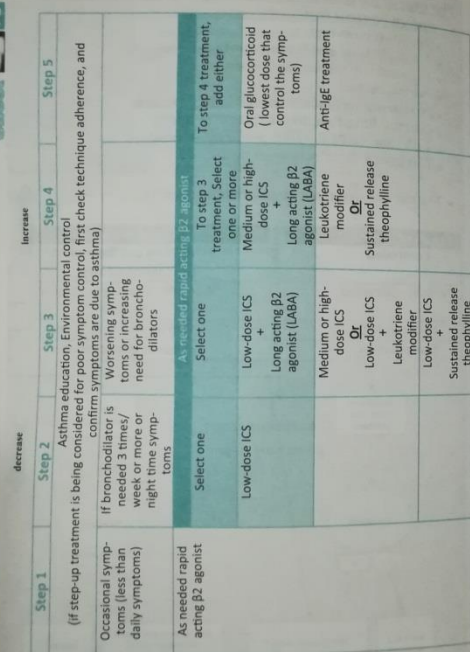
The aim of asthma management is control of the disease.
Complete control is defined as:

- No daytime symptoms
- No night time awakening due to asthma
- No need for rescue medication
- No exacerbations
- No limitations on activity including exercise
- Normal lung function (in practical terms)
- FEV_1 and/or PEF $>80\%$ predicted (or best)
- Minimal side effects from medication.

- Start at the step most appropriate to severity.

Level of control		Treatment action
Controlled	decrease	Maintain and find lowest controlling step
Partially controlled		Consider stepping up to gain control
Uncontrolled	increase	Step up until controlled
Exacerbation		Treat as exacerbation

Treatment steps
go to next page



Shaded boxes = recommended treatment

Doses of inhaled corticosteroids (ICS)

Drug	Low dose (μg)	Medium dose (μg)	Highly dose (μg)
Beclomeatasone-CFC	200-500	> 500-1000	> 1000-2000
Beclomeatasone-HFA	100-250	> 250-500	> 500-1000
Budesonide	200-400	> 400-800	> 800-1600
Fluticasone	100-250	> 250-500	> 500-1000

Trade names (for asthma)

Drug	Trade name
Beclomethasone-HFA (ICS)	CLENIL FORTE (250µg) inhaler, 200 doses BECLOSONE 50µg, 200 doses
Budesonide (ICS)	PULMICORT inhaler 100µg Pulmicort inhaler 200µg MIFLONIDE كبسولة 400µg
Fluticasone (ICS)	FLIXOTIDE inhaler 50µg Flixotide evohaler 50µg, 120 doses Flixotide discus 100µg, 60 doses Flixotide evohaler 125µg, 60 doses Flixotide discus 250µg, 60 doses
Salbutamol (SABA)	VENTOLIN evohaler 100µg, 200 doses VENTAL inhaler 100µg, 200 doses SALBOVENT tab, 2mg Salbovent forte tab, 4mg Ventoline tab, 2mg
Salmeterol (LABA)	SERVENT inhaler 25µg Servent discus 50µg
Formoterol (LABA)	FORADIL 12µg كبسولة 1x2
Budesonide + Formoterol (ICS + LABA)	SYMBICORT turbuhaler 160µg/4.5µg Symbicort turbuhaler 320µg/9µg Symbicort turbuhaler 80µg/4.5µg

Drug	Trade name
2 Salmeterol + Fluticasone (ICS + LABA)	SERETIDE discus 50µg/100µg (60doses) Seretide discus 50µg/250µg (28doses) Seretide discus 50µg/250µg (60doses) Seretide discus 50µg/500µg (60doses)
Theophylline	QUIBRON-T SR t. 300 نصف قرص صباحا ومساء Theophylline may be used as prophylaxis 1x1 at night to prevent morning dipping
Salbutamol (Modified release Oral β2 agonist)	BRONCAL SR cap. 1x2 (salbutamol 8 mg)
Montelukast (Leukotriene receptor antagonist)	SINGULAIR 10M6 tab 1x1 (82 LE) Given at 8 pm
Prednisolone (Systemic steroid)	HOSTACORTIN or SOLUPRED tab (5mg, 20) If control is lost at any stage consider short course of oral steroids (prednisolone 30-40 mg for 5 days) then gradually ↓ the dose.

N.B: wash your mouth carefully after steroid spray (ICS) to prevent candida and pharyngeal irritation.

References

1. GP: P.170-175
2. Oxford General practice: P.376-380
3. OHCM: P.164-16
4. OHCM: 8th ed - p 172-175

5. Haemoptysis داء

- **Coughing of blood** may vary from slight streaking to massive hge (> 150 ml in single attack)
- **Distinguish carefully** ()
 - Haemoptysis (Alkaline & bright red blood)
 - Haematemesis (Acidic & dark blood) associated with melaena. → عمل
 - Epistaxis (nosebleed): pseudohaemoptysis.
- **Put in your mind the following causes:**
 - **URTIs:** tonsillitis, sinusitis.
 - **LRTIs:** pneumonia, T.B, bronchitis, bronchiectasis.
 - **Malignancy:** bronchus (Ch. Cough, wt. loss), larynx, lung 2ries
 - **Infarction:** PE (breathlessness, pleuritic chest pain)
- **Tip:** Most cases in GP involve minor blood with mucus produced from URT due to excessive violent coughing.
- **Examination:**
 - Examine throat (tonsillitis?)
 - Examine chest (pneumonia? - bronchitis?)
 - Look for cervical & axillary lymphadenopathy (carcinoma?).
 - Check bleeding from other site (hgic disease?)
 - Clubbing (bronchiectasis, cancer).
- **Investigations:**
 - CXR: for T.B, carcinoma and pneumonia
 - CT if indicated
 - ECG: for PE.
 - Sputum for TB

Causes of haemoptysis in normal CXR

1. Acute bronchitis
2. Chronic bronchitis
3. Bronchiectasis
4. Endobronchial T.B
5. Tracheal trauma
6. Hgic disorder
7. PE

• Management:

1. Manage the underlying dse if detected.
2. Treat distressing haemoptysis by diazepam (Neuril)
3. Give: **R/DYCEINON** amp. حقنة وريد
 أمبول على ١٠٠ مل محلول ملح
 R/CYCLOKAPRON amp.
 أمبول وريد R/KONAKION
3. Refer for bronchoscopy if diagnosis is uncertain.
4. Cough suppressant (R/COUGH CUT 1x3), avoid mucolytics and expectorants.

References

1. GP: P.181-182
2. OHCM: P.62

6. COPD (chronic obstructive pulmonary disease) داء

- Disorder characterized by air-flow obstruction
- It includes either chronic bronchitis, emphysema, or both
- **Chronic bronchitis** = chronic cough, sputum on most of days for 3 months of 2 successive years.
- Mainly caused by **smoking**
- Less incidence in age < 50 ys or non smokers
- **Ask about**
 1. Cough lasting more than 1 month or recurrent
 2. Sputum color and volume
 3. **Breathlessness** which worsen on exertion.
 حقة مستمرة بين يتزايد أحيانا أما الأزمة فيها حقة يتجى وتروح ويكون سليم تقريبا attacks
 4. **Smoking (NO of packs/day, NO of years as a smoker)**
 5. Occupational exposure to dust and fumes (توسيت وعندما فرن باي)
 6. Effect of this problem on daily activity.
- **Examine:**
 - Look at the chest- hyper-expansion (barrel chest) is common
 - Auscultate (**wheeze** is common)
 - Clubbing should be absent: its presence suggests bronchiectasis or lung cancer.

Consider a diagnosis of COPD for people who are:

- Over 35, and
- Smokers or ex-smokers, and
- Have any of these symptoms:
 - Exertional breathlessness
 - Chronic cough
 - Regular sputum production
 - Frequent winter 'bronchitis'
 - Wheeze
- **And do not have clinical features of asthma:**
 - Chronic unproductive cough.
 - Significantly variable-breathlessness
 - Night-time waking with-breathlessness and/or wheeze
 - Significant diurnal or day-to-day variability of symptoms

Ask about the following factors where COPD is suspected:

- Weight loss
- Effort intolerance
- waking at night
- Ankle swelling
- Fatigue
- Occupational hazards
- Chest pain
- Haemoptysis

Investigate:

- CXR to exclude malignancy & HF
- Do Spirometry in all cases (if available)
- In COPD
 - FEV1/FVC ratio is < 70 %
 - FEV1 % less than 80 % of predicted.
- Repeat spirometry 5 min. after 400 microgm. dose of inhaled salbutamol
- If improvement in FEV1 of more than 400 ml. or normalization of FEV1 suggest asthma.

Management:

This case is **mainly managed by a chest physician**, management is guided by guidelines according to severity of the disease. We are talking here generally about COPD management not according to severity. So consult your senior or a specialist.

Refer if

- Under 40 yrs old. (suspected alpha 1 antitrypsin deficiency)
- Non-smoker.
- Disabled by dyspnea. (Severe COPD)
- Difficult diagnosis.

1. General

- Smoking cessation ضروري
- Encourage exercise.
- Decrease weight in obese.
- Treat poor nutrition.
- Physiotherapy (if indicated).
- خليه يطلع النفس بالراحة مش بعنف

2. O₂: (in acute exacerbation)

تغلبوا: 1: اوعي تزود عن 2 لتر ويطبق SpO₂ عدد 90-88 % لأن العيان ده من كثر الـ hypercapnia أصبح مدمود عليا وأصبح الـ respiratory stimulation عن طريق الـ hypoxia فلو صلحتنا بالكامل يحصل الـ respiratory arrest مغلبوا: 2: متسببش العيان الـ severely hypoxic الـ hypoxia is very dangerous

3. Mild cold case of COPD

- R/TAVACIN 500MG IXIX10
- R/FORADIL CAP IX2 كبسولة شطط حكل ١٢ ساعة
- R/MIFLONIDE CAP IX2 كبسولة شطط حكل ١٢ ساعة
- R/ACETYL CYSTEINE 200 MG SACHETS IX3 (MUCOLYTIC)
- R/EXPECTYL SYP IX3
- R/VENTAL INHALER بخاخة عند اللزوم
- R/OMEZ 20 IX1

4. If symptoms control is poor consider referral to chest specialist for e.g possible home O₂ therapy (16 hrs low flow oxygen /day).

5. Consider empirical antibiotics in acute exacerbation of COPD.

References:

- 1. GP: P.183-185
- 2. OHCM: P.168-169
- 3. OHGP: P.382-387

FVC = Forced vital capacity

FEV1 = Forced expiratory volume in 1 second

Normal FEV1/FVC = 75-80 %

7. Bronchodilators and steroids

A. Bronchodilators

- Action : relaxation of bronchial smooth ms.)

■ Members:

Short acting β_2 agonists

- e.g.: Salbutamol., Terbutalin
- Duration: 3-5 hrs.
- R/Ventolin inhaler (salbutamol 2 mg) start as 1 or 2 puffs

Long acting β_2 agonists.

- e.g.: Salmeterol, Formoterol
- Duration: ~ 12 hrs.
- R/Metrovent inhaler (salmeterol 50 microgm.)
- R/Foradil (formoterol)
- Do not use for relief of acute asthmatic attack

B. Steroids (short & long term treatment of inflammatory conditions):

■ Main SE:

1. Hypertension.
2. DM & worsening of diabetic control.
3. Na⁺ and water retention, K⁺ loss.
4. Masking of infection.

1. Oral steroids:

Prescribed as single dose in the morning to decrease circadian disturbance

R/Prednisolone 5 mg

R/Hostacortin (Prednisone 5 mg)

R/Solupred 5mg, 20mg

2. Inhaled steroids:

Relief of symptoms occur 3-7 d after initiation of tit.

- Common SE are oral candidiasis and hoarseness so, mouth wash is advised or use of large volume spacer.

- R/Beclo spray (beclometasone). (nasal spray for allergic rhinitis)
- R/Clenil forte inhaler
- R/Meflonide cap.

References:

- 1. OHGP: P 370-371

8. Respiratory system examination

1. Undress the waist and sit the patient on the edge of the bed.
2. Assess general health: well? unwell? cachectic?
3. Is there respiratory distress?
4. Count respiratory rate
5. Note breathing pattern:

• Chyne-Stokes breathing:

- Deep regular breathing alternating with very slow shallow breaths
- Think of ch. pulmonary oedema, decreased cop, stroke.

• Kussmaul's respiration:

- Rapid deep respiration
- Think of severe metabolic acidosis as DKA and renal failure.

6. See chest wall

- Deformities?
- Scars?
- Tattoos of irradiation?

7. Note chest movement

- Symmetrical?
- If not → pathology on the restricted side
- Paradoxical respiration? = Abdomen sucked in with inspiration → think of diaphragmatic paralysis.

Respiratory distress

Tachypnea, nasal flaring, tracheal tug (pulling of the thyroid cartilage towards sternal notch during inspiration).

2 See the hand

- Peripheral cyanosis → asthma, PE, pneumonia, pulmonary oedema, COPD

9. Now examine the chest

A. Tracheal position:

- Normally it is **slightly deviated to the Rt.**
- If displaced → collapse, large pleural effusion

B. Percussion:

- Dullness** cardiac dullness, collapse, consolidation, pleural effusion.
- Hyper-resonant** Pneumothorax, COPD



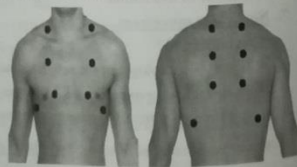
C. Auscultation

Method

- Use the **diaphragm** of the stethoscope
- Ask the patient to take deep breath in and out through the mouth

- خذ نفس عميق من بقل يا حاج انتفس غادي بس من بقل
- اطلب من المريض ان يأخذ نفس عميق من الفم
- بعض المرضى يرتبك ويجلس نلسة او لا يأخذ نفس عميق
- اطلب منه ان يستمر في التنفس بشكل طبيعي ولكن من الفم

- Listen bilaterally over the areas shown in the diagram.



- if you found abnormality re-listen carefully. Listen to breathe sounds, added sounds and note at which point of respiratory cycle they occur.

What will you find?

- Normal sounds (Vesicular)
- Decreased sounds
 - Local: effusion, tumor, Pneumothorax.
 - Global: COPD or Asthma.

N.B: Silent chest = life-threatening asthma.

- Bronchial breathing:** over pleural effusion, consolidation (e.g. pneumonia), lung abscess, and dense fibrosis.

لكي تتعرف عليها: ضع السماعة فوق الح trachea واسمع
هذا هو صوت الـ bronchial breathing

4. Added sounds:

A) Wheezes: see before

B) Crepitations (crackles):

- Heard in **inspiration**
- Coarse (pneumonia?): شه صوت البشار المطرق
- Fine (pulmonary oedema?): شه صوت حك الشعر بين السبابة والابهام

C) Rub:?

- صوت تشبه صوت تلي جلد جديد او صوت خطوة على الدلوخ
- Heard **at the height of inspiration.**
- Movement of the stethoscope over the chest wall will sound similar.
- Due to **pleural inflammation.**

References

- OHCM 7th ed.: P.36-40.
- Oxford-clinical examination and practical skills, 1st ed. P.210-217.

Put in your mind

- ACEIs cause dry cough.
- GERD causes dry, nauseating, meal-time cough.
- Yellow or green sputum suggest infection.
- Black sputum: think of **smoking**.
- Nocturnal cough: think of **asthma**.
- Nocturnal dyspnea: think of LVF and pulmonary oedema.
- Painful dry cough: think of tracheitis and laryngitis.
- URTIs cause acute cough.
- URTIs is rhinitis, pharyngitis, tonsillitis, and common cold.
- Chronic cough is cough which lasts more than 3 w.
- Acute dyspnea: think of asthmatic attack, PE.
- Gradual dyspnea: think of asthma, pneumonia, and anemia.
- Orthopnea: think of pulmonary oedema.
- Wheezes (rhonchi): think of asthma, COPD, bronchiolitis.
- Respiratory distress = tracheal tug, nasal flaring, Tachypnea.
- Kussmaul's respiration = rapid deep respiration.
- Chyne-Stokes breathing = deep regular breathing alternating with very slow shallow breath.
- If you found peripheral cyanosis think of **asthma, COPD, pneumonia, PE, pulmonary oedema.**
- Normally, trachea is slightly deviated to the right.
- Silent chest = life threatening asthma.
- Bronchial breathing: think of pneumonia, pleural effusion.
- Abs are not necessary in URTIs.
- Fine crepitations: think of pulmonary oedema.
- Coarse crepitations: think of pneumonia.
- CURB 65 score is (confusion, urea, RR, low BP., Age 65 ys old).
- Tonsillar exudate does not mean infection.
- Haematemesis is **acidic dark blood**.
- Haemoptysis is alkaline bright red blood.
- COPD is caused mainly by smoking.
- Clubbing should be absent in COPD.

- MW is needed after inhaled steroids to avoid oral candidiasis.
- Systemic steroids cause HTN, DM.
- Prescribe oral steroids as single dose in the morning.
- Don't use salmeterol for relief of acute asthmatic attacks.

Remember

- Good doctor is a good observer.
- GP mission is diagnosis and ttt of most common dses & detection of serious dses for referral.

Test yourself

Complete the following:

- Yellow/green sputum suggests
- In BA, if bronchodilator is needed 3 times/week or more, the prescription is
- 3 SE of steroids.....
- Cough of asthma is often (diurnal – nocturnal)
- 4 causes of dry cough.....
- Chronic cough is the cough lasting < Weeks
- Def. of dyspnea is.....
- URTIs includes.....
- Treat a case of common cold.....
- Chyne-Stokes breathing is.....
- Items of CURB score are.....
- Respiratory distress is.....
- Treat a case of bronchitis with green sputum.....
- Criteria of severe asthmatic attack.....
- Blood of haemoptysis is while that of haematemesis is
- Cough during & after swallowing liquids suggests

2



17. If you heard bronchial breathing think of.....

18. Kausmall's respiration is.....

Answers

1. Infection
2. R/ventolin inhaler يومياً
R/beclo spray يومياً ٤ بخات مرتين يومياً
3. HTN
DM
Na⁺ and water retention, K⁺ loss
4. Nocturnal
5. Acid irritation
SE of ACEIs
Tracheitis
Postnasal drip (sinusitis)
6. 3
7. Sensation that one has to increase effort for respiration
8. Bronchitis, rhinitis, sinusitis, pharyngitis, laryngitis
9. R/congestal tab. قرص ٣ مرات يومياً أو مرة قبل النوم لو كان يسبب الانعاس
R/otrivin ND نقطتين بكل فتحة أنف ٣ مرات يومياً
R/panadol قرصين عند اللزوم
غرغرة ماء دافئ
شرب ماء كثير
10. Deep regular breathing alternating with very slow shallow breaths
11. Confused
Urea > 7mmol/L
RR > or = 30
Systolic Bp < 90 , Diastolic BP < 60
Age > or = 65 years
12. Tachypnea, nasal flaring, tracheal tug
13. R/ceporex 500 tab. قرص كل ١٢ ساعة لمدة أسبوع
R/abimol قرصين عند اللزوم أو قرص كل ٦ ساعات
R/toplexil syp. ملعقة كبيرة ٣ مرات يومياً
14. Inability to complete sentences
Pulse > 110
RR > 25/min.
Asthma may be associated with acid reflux
15. Alkaline & bright red
Acidic & dark
16. Diseases of the oropharynx
17. Pleural effusion, pneumonia, lung abscess, dense fibrosis
18. Rapid deep respiration

تم فصل الـ Chest والله تعالى الفضل والمنة